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CURRENT LITERATURE

BOOK REVIEWS

Bacterial diseases of plants

This volume by SMITH,¹ as its name indicates, is intended to serve students as an introduction to that group of plant diseases caused by bacteria. An unusual proportion of the text is based upon the work of the author and those associated with him in his laboratories. The wealth of illustration, including reproductions of photographs and drawings, is particularly striking. There are 237 full-page illustrations, and smaller illustrations bring the total to about half of the book.

The first 64 pages are devoted to "A conspectus of bacterial diseases of plants," including tables of plant families and genera in which bacterial diseases are known. Of particular interest are the summaries of agents of transmission and on plant reactions. "Methods of research" are discussed in about 50 pages. In most cases details of culture media and technique are omitted, reference being made to suitable sources of information.

Part III, the principal portion of the text, is devoted to a "Synopsis of selected diseases." Of the fourteen organisms discussed, eight were named by the author, and two others by workers in his laboratory, and all have been worked over by him or his associates, so that statements are in general authoritative. The diseases and causal organisms discussed are those which have been most studied in the United States. For each disease there is given, first, a brief description of the pathology, plants affected, and distribution; second, a condensed description of the causal organism, including morphology, staining characters, culture, and physiology; and third, the special technique required in studying the relationships of parasite and host. In each instance this is followed by a laboratory guide, indicating the points to be studied and the special observations to be made. A brief index to the more important literature is included. The directions are full of suggestions for experimentation and the development of original problems.

The next 100 pages are included in a section termed "Miscellaneous." Brief notes on additional diseases are followed by a chapter on suggestions of subjects for special study. The next three chapters are devoted to tumors and teratoses produced in plants in the absence of parasites. They are of great interest, but would seem to belong rather to a treatise on general plant pathology than in one devoted to bacterial diseases.

¹ SMITH, ERWIN F., *An introduction to bacterial diseases of plants.* pp. xxx+688. *figs.* 453. Philadelphia: Saunders Co. 1920.

The last section on "General observations" is unique. It consists of about 30 pages of advice to students and investigators. It is well written, interesting, and stimulating. It is to be regretted that it should have been published where it will necessarily have relatively so small a circle of readers. The ideas running through the section may be indicated by some of the headings, as "On subsidiary studies," "On beginning work thoughtlessly," "On repetition of experiments, other people's, one's own," "On publication," "On keeping one's own counsel," "On sharing credits," and "On attending meetings and keeping up membership in societies, and on being generally public spirited and helpful in science." An excellent index is provided.—R. E. BUCHANAN.

Geography of plants

In a compact volume, HARDY² has given a comprehensive review of the vegetation of the world in very readable form. Maps of such climatic factors as rainfall and temperature, as well as of the vegetation itself, are upon a small scale, but seem very accurate, although necessarily lacking in detail and expressing a much greater rigidity than obtains in nature. The general characterization of the vegetation is fairly accurate, although one is often at a loss to know just what genera and species are intended on account of the rather complete absence of scientific names. The few scientific terms employed are so lacking in accuracy as to shake one's confidence in the facts presented with which he is not already familiar. Irregularities in spelling and capitalization might be overlooked, but to designate the long-leaved pine on the Atlantic slope as *Pinus Lambertiana*, or to refer any of the North American "cedars" to the genus *Cedrus* is certainly unpardonable. Such inaccuracies in terminology, together with an entire absence of citations of the sources of data, will prevent the book being used by advanced classes, although it will probably be found useful for imparting general impressions and in sketching in broad outline the vegetation of the various continents.—GEO. D. FULLER.

MINOR NOTICES

Practical botany.—MARTIN'S textbook entitled *Botany for Agricultural Students* has appeared in a second edition and with a new title.³ The general purpose of the text was stated in a previous review.⁴ In the new edition portions of the text have been re-written, to correct errors and to increase clearness, but the chief changes occur in the treatment of heredity and evolution, a chapter on variation being added. The matter is well presented, clear in style and organization, and is certainly well adapted to its constituency.—J. M. C.

² HARDY, M. E., *The geography of plants*. 12mo. pp. xix+327. figs. 115. Oxford: Clarendon Press. 1920.

³ MARTIN, J. N., *Botany with agricultural applications*. 8vo. pp. xii+604. figs. 490. New York: Wiley & Sons. 1920.

⁴ BOT. GAZ. 68:308. 1919.